MECHANICAL ENGINEERING

The Journal of The American Society
of Mechanical Engineers

INDEX TO VOLUME 41

JANUARY TO DECEMBER

1919

PUBLISHED BY

THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

29 West Thirty-ninth Street, New York

INDEX

MECHANICAL ENGINEERING

The Journal of The American Society of Mechanical Engineers

Volume 41, January to December 1919

TECHNICAL, SOCIETY AFFAIRS AND MISCELLANEOUS SECTIONS

(For Engineering Survey see Separate Index, page X)

D denotes discussion; C, correspondence; Roman numerals, pages in Section Two

A

Aberdeen Proving Ground, excursion to... 69
ABORN, W. G., Industrial relations (D)... 576
Abstracts of technical papers presented at the 1919 A.S.M.E. Annual Meeting. 904
Accessions to the Library....86, 421, 566, 644, 720. 794
ACKERMAN, WILLIAM S., necrology and portrait 81
ADAMS, COMFORT A. Abstract of address at Business Meeting of A.M.S.E. 1919 Spring Meeting 15
The relation of the engineer to production and distribution..... 450
Standardization (D) 160
Addresses of members required.....XII (Oct.)
Addresses, request for correct..... 289
ADLER, A. A. The design of riveted butt joints 433
Administration and standardization of wages 35
Administration, the relation of the engineer to 449
Aeronautical exposition, New York..... 406
Aeronautics, the proposed department of.. 785
Aeroplane design, horsepower of resistance in 721
After-war European industrial activity... 778
Aims and organization, engineering societies' committees on..... 17
Committee on (C) 165, VII (April), IV (Oct.) 298
Discussion of report of committee on. 604
Portraits of committee on.....296, 297
Program of first meeting of committee on 12
Progress report of committee on..... 12
Recommendations of committee on... 601
Standardization of aims of committee on 555
Air Brake Association (convention)..... 561
Air compressors, lubrication of, 384; (C) 532
fans for driving generators on airplanes 527
race, the American..... 903
pumps for condensing equipment..... 926
Aircraft factory, naval..... 142
production, experimental work on glues by bureau of..... 382
propellers, warping of..... 592
Loomis cooling system for..... 255
AIREY, J., Theory of tolerances (C)..... 832
Airplanes, air fans for driving generators on the inspection of at Romorantin, France 819
Airplane-wing design, elements of a general theory of 728
Air-service development problems..... 710
Akron engineers form new club..... 299
Alaskan railroad 853
ALFORD, L. P. Aims and organization report (D) 605, 608
The status of industrial relations.... 513
ALLEN, J. R. Research session (D)..... 670
Alloys, research work in..... 973
ALVERSON, H. B., portrait..... 76
Amendments to the constitution (proposed).....xvi (Nov.)
American Association of Engineers, meeting 635
American Concrete Institute..... 712
American Drop Forge Association, meeting 629
American Electric Railway Association, meeting 414
American Engineering Standards Committee 70
Proposed reorganization of..... 638
American Foundrymen's Association, meeting 909
American Gear Manufacturers' Association, convention 561
American Institute of Architects, meeting 560
American Institute of Electrical Engineers, meeting.....187, 415, 560, 713
American Institute of Mining and Metallurgical Engineers, meeting....415, 909
American Iron and Steel Institute, meeting 636, 970
American machinery in Indo-China..... 715
American Paper and Pulp Asociation, meeting 969
American Railroad Association, meeting.. 712
American Railway Bridge and Building Association, meeting 970
American Society of Safety Engineers, meeting 908
American Society for Testing Materials, meeting 714
American Society of Civil Engineers, meeting 187, 712
American Society of Heating and Ventilating Engineers, meeting.....300, 635
The bureau of research of..... 759
American Steel Treaters' Society, meeting. 299
American Water Works Association, meeting 712
American Welding Society, organization meeting 414; meeting..... 969
Among the local sections. (*See* Sections.)
ANDERSON, F. A. Electric arc welding.... 452
ANGELL, JAMES R., appointed chairman of National Research Council..... 559
ANGUS, R. W., portrait..... 77
An impression of the president, Dean Cooley .....I (Apr.)
The A.S.M.E. Annual Meeting, 1918..... 1
General account 1
Opening session, Tuesday evening.... 3
President Main's address..... 6
Business Meeting 15
Keynote session: Engineering of Man Power 27
First general session..... 38
Excursions 69
Machine shop session..... 159
The A.S.M.E. Annual Meeting, 1919, Advance note on, 966.....IV (Nov.), 846
Appraisal and valuation methods..... 931
Army educational work abroad..... 288
Engineering achievements of the..... 372
Equipment for highway work..... 709
Motor-transport vehicles 859
Right man in the right place in the.. 423
Training, A.S.M.E. headquarters for..... 405
ARNOLD, D. L. Suggested formula for rating kerosene engines..... 672
Atlanta Section.....80, 197, iv (Mar.), viii (Apr.), vi (May), v (Dec.)
Artillery, French and American railway (illustration) 45
railway 44
Association of Iron and Steel Electrical Engineers, meeting..... 908
AUEL, C. B. Industrial relations (D).... 580
AUSTIN, WILLIAM F., necrology..... 974
Averages, the usual misleading and the correct statement of (C)..... 954
Awards, new policy on Society.....ii (Oct.)
AZBE, V. J. Refrigerating-plant efficiency. 362

B

BACON, WILLIAM. Standards for large taper shanks and sockets..... 163
BAKER, C. T. Lubrication of air compressors (C) 532
Regarding the Society's employment service (C) 614
BAKER, CHARLES W. Non-financial incentives in industry (D)..... 29
BALDWIN, ABRAM T., necrology..... 304
BALDWIN, C. M., necrology..... 640
Ball and roller bearings under centrifugal loads 777
bearings, lubrication of..... 811
Baltimore Section....80, 197, viii (Apr.), vi (May), v (Dec.)
BANCROFT, J. SELLERS, necrology and portrait 305, 417
BARNHURST, H. G. Pulverized coal (D). 661, 754
Pulverized coal for stationary boilers. 650
BARROWS, S. B. Efficiency and democracy (D) 42
BATEMAN, PAUL. The tank-car maintenance problem 817
BATES, EDWARD PAYSON, necrology and portrait 854
BEAKEY, PATRICK J., necrology and portrait 201
Bearing metals, report of sub-committee on 537
Bearings, common errors in the machining of 879
BENJAMIN, C. H., appeal from, as chairman of Committee on Rehabilitation of the Blind 847
Research session (D)..... 670
BERNDT, IRVING A. Non-financial incentives in industry (D)..... 28
BERRY, O. C. Crude-oil motors vs. steam engines in marine practice (D).... 680
Standards of carburetor performance. 674
BERTSCH, LAWRENCE HOWARD, necrology and portrait 81
BEST, W. N. Arizona power plants using oil-fuel (D) 662
Pulverized coal (D)..... 655
BETTS, ALFRED, necrology..... 201
BIBBINS, J. R. Research session (D)..... 671
BIERBAUM, C. H. Common errors in machining of bearings..... 879
Report of sub-committee on bearing metals 71
Research session (D)..... 671
Birmingham Section....197, iv (Mar.), vi (May), iv (June), v (Dec.)
BLAKE, C. S., portrait..... 76
BLAKELEY, E. B. The Hvid engine and the fuel problem 918
BLAKEMAN, W. H. Efficiency and democracy (D) 42
Boiler Code, A.S.M.E., Part I, Section III. 682
Committee, work of....386, 460, 533, 682, 834, 891
Revision of 64
Boiler operation, the chemical and physical control of 137
Boilers, locomotive, improvements in (C). 387
Pulverized coal as a fuel for..... 744
Pulverized coal for stationary..... 650
BOLE, WILLIAM A., necrology..... 791
Book notes and reviews.....84, 205, 307, 420, 495, 565, 643, 719, 793, 857, 975
BORDE, GEORGE U., necrology..... 417
BORNHORST, AUGUST H., necrology and portrait 305
Boston Section.....197, iv (Mar.), viii (Apr.), vi (May), iv (June), ii (Aug.) dinner for Past-president Main..... 262
Fuel meeting of..... 196
BREZINSKY, EMIL, necrology..... 81
Bridge, mechanical features of the vertical-lift (D) 379
Bridgeport Section (*see* Connecticut Section)
BRINTON, W. C. Aims and organization report (D) 606
BRITTON, J. A. Gas as a conservation measure 286

377159

BROWNE, GAIL H., necrology 200
BRUSH, DR. C. F., Honorary membership conferred by Cleveland Engineering Society 629
BRYANT, E. J. Screw threads (D) 160
BUELL, D. C. (Lieut.-Com.). Long-range heavy navy guns with railway mount 25
Buffalo Section.....197, vi (May), v (Dec.)
Bureau of Standards, certification of gages at 800
gage laboratories of 290
manufacture of precision gage blocks at the 289, 484
Publications 627
work in 1918, note on annual report.. 416
BURGESS, CHARLES M., necrology and portrait 201
BURLINGAME, LUTHER D. Thread-gage making and testing (D) 163
The weights and measures of Latin America (D) 39
Business engineering at Stevens 779
BUTLER, H. G. Electric consolidations and their relations to fuel conservation. 266
Butt joints, design of riveted 433

C

CAINE, W. P., portrait 76
CAMMEN, L. Combustion of heavier fuels in constant-volume-type and superinduction-type engines 941
Canada, salaries of engineers in 966
Candidates for membership..91, v (Feb.), vii (Mar.), xii (Apr.), xiii (May), ix (June), xi (July), vii (Aug.), ix (Sept.), x (Oct.), xiv (Nov.), xiii (Dec.)
Capital and labor, President Wilson's conference on 848
Carburetor performance, standards of.... 674
CARDULLO, FOREST E. Aims and organization report (D) 606
Crude-oil motors vs. steam engines in marine practice (D) 680
Elements of a general theory of airplane-wing design (D) 787
Industrial relations (D) 572
Standards of carburetor performance (D) 681
CARMAN, E. S. After-war European industrial activity 778
Portrait of 76
CARNEGIE, ANDREW, necrology 789
Portrait (facing) 721
Carnegie Institute of Technology, steel research laboratory planned for the.. 465
CARPENTER, WILLIAM F., necrology..... 974
CARY, A. A. Pulverized coal (D)..... 656
CASSIDY, J. EDWARD. "Over the top" in France (C) 164
CASTLE, S. N. Aims and Organization (D) 604, 605, 607
The engineer as a citizen (D)..... 450
CATHCART, W. L. (Lieut.-Com.). The achievements of naval engineering in the war..... 18
Census, U. S. 1920, engineers in the..... 912
Central-station heating in Detroit..... 497
Centrifugal compressors 795
Certificates for engineers in war service in the U. S. (C)..... 954
Certification of gages at Bureau of Standards 800
Chemical and physical control of boiler operation 137
warfare, refrigeration requirements of 806
CHRISTIE, A. G., Marine practice in valves and fittings 135
Chicago Section.....80, 197, vi (May), iv (June), v (July), iv (Oct.), v (Dec.)
CHRISTENSEN, CHARLES C., necrology..... 304
CHUCAN, JOHN. Suggested formula for rating kerosene engines (D)..... 681
Cincinnati Section.....80, iv (Mar.), vii (Apr.), vi (May), iv (June)
Citizen, the engineer as a..... 448
The civic responsibility of the engineer... 448
Civilization, how can engineers be of greatest use to? (C)..... 613
CLARK, A. T. Efficiency and democracy (D) 42
CLARK, WALLACE. Efficiency and democracy (D) 41
Classification and compensation of engineers 632, 851, 972
of membership.....vi (July)
CLAYTON, C. T., Letter to L. C. MARBURG from 290
Cleveland Engineering Society, bulletin of Engineering Society honors A.S.M.E. members 629
plan of engineering coöperation..... 182
Section .....iv (Oct.), v (Dec.)
Section Patent Committee Report, v (Dec.)
Coal and stoker installations, foreign (C). 756
for foreign shipment..... 710
pulverized, as a fuel..... 645
pulverized, as a fuel for boilers..... 744
pulverized, for stationary boilers..... 650
Coast and geodetic survey..... 785
COBURN, COMM. F. G., manager of construction and organization of Naval aircraft factory 142
Code, Boiler (*see* Boiler Code).
COGSWELL, L. W., necrology..... 640
COLBURN, C. P. Measurement of thread gages (D) 162
COLEMAN, H. S. Research session (D)... 670
Colorado Engineering society, meeting.... 637
Section .....iv (Oct.)
Combustion of heavier fuels in constant-volume-type and superinduction-type engines 941
Commerce, department of, to manufacturers 67
Commercial engineering, national conference on 710
engineer, plans for the training of the. 558
Committee (*See* name of Committee)
Committees, Annual Reports of.....xv (Dec.)
and council, 1919, directory.....iii (Apr.)
Compressor, a perfected high-pressure rotary 877
Compressors, centrifugal 795
lubrication of air..... 384
Condensed catalogues, ninth volume of.... 847
Condenser tubes, flow of water through... 943
Condensing equipment, air pumps for..... 926
CONLEY, MURRAY C., necrology..... 201
Connecticut Section 197
Bridgeport Branch..197, v (July), ii (Aug.)
Hartford Branch....197, iv (June), v (July), v (Dec.)
Meriden Branch.....viii (Apr.), vi (May), iv (June), v (July), v (Dec.)
New Haven Branch....197, v (Mar.), viii (Apr.), v (July), v (Dec.)
Waterbury Branch.....197, vi (May)
Conservation, electric consolidations and their relations to fuel..... 266
Conservation measure, gas as a..... 268
Constant-volume-type and superinduction-type engines, combustion of heavier fuels in 941
Constitution, proposed amendments to.... xvi (Nov.)
Consular service, technical men for the.v (Oct.)
COOK, HARRY H., necrology..... 562
COOKE, M. L. A plea for the enfranchisement of junior members (C)..... 907
Committee on aims and organization (C) 165
Contributions on Society policy (C).. 688
COOLEY, M. E. Aims and organization report (D) 604
An unoccupied rung in the engineer's ladder of fame..... 293
President 1918-1919, biographical sketch 71
principles in making committee appointments of 181
What are your ideas?..... 706
Cooling system for aircraft, the Loomis... 255
COOPER, THEODORE, necrology..... 854
Correspondence (*See* also subject) .64, 164, 272, 387, 462, 531, 613, 688, 756, 832, 954
Corrosion of non-ferrous metals and alloys, note on 777
Corrosion, relative, of wrought-iron and steel pipe 455
COTTRELL, DR, F. G. The production of helium from natural gas..... 155
Council and committees, 1919, directory of.....iii (Apr.)
meeting February 22, 1919..... 287
notes (Abstract of minutes of Council meetings of the Society), 74, 184, 1 (Apr.), 1 (May), i (June), iii (July), iii (Sept.), iii (Dec.)
COX, H. J. Electric welding as applied to ship construction 439
COYLE, THOMAS W., necrology and portrait 492
CRAWFORD, C. H. Discussion of Society policy urged (C) 758
Crossing the: trans-Atlantic flight made by U. S. Navy..... 554
Crude-oil motors vs. steam engines in marine practice 609
CULLEN, JAMES W., necrology..... 913

D

DALE, SAMUEL S. The weights and measures of Latin America (D)..... 39
DALLY, JOHN H., necrology..... 305
DAVIDSON, MARSHALL T., necrology..... 562
DAVIS, CHARLES E. Efficiency and democracy (D) 42
DAVIS, W. J., JR. Railroad electrification as a fuel-conservation measure..... 268
DEAN, F. W. and KREISINGER, H. E. F. C. water-tube boiler for wood ships... 943
DE BAUFRE, W. L. Flow of water through condenser tubes 949
DEBOTHEZAT, GEORGE. Elements of a general theory of airplane-wing design (D) 730
DECHERD, C. K., portrait..... 77
DELANY, C. H. Arizona power plants using oil fuel (D)..... 661
DE LEEUW, A. L. Non-financial incentives in industry (D)..... 29
Wage payment 939
The weights and measures of Latin America (D) 39
Democracy and efficiency..... 43
Design, airplane-wing, elements of a general theory of..... 728
Design of riveted butt joints..... 433
Destroyers, torpedo-boat, in the making... 739
Detroit, central-station heating in..... 497
Detroit Section.....197, vii (May)
DICKIE, GEORGE W., snap shot of, with C. Piez and C. M. Schwab..... 70
DICKSON, W. B. Some twentieth-century problems 445
DIEPENBROCK, JOSEPH FRANZ, necrology... 562
Diesel engines and the merchant marine.. 377
on the Pacific coast..... 377
DILLARD, JAMES B. (Col.) Railway artillery 44
DIMAN, W. G. Pulverized coal (D)..... 655
DINGEE, W. W., necrology..... 640
DINKEL, GEORGE, necrology..... 201
Distinguished service cross awarded to Capt. H. L. SMITH..... 708
DONNELLY, WILLIAM T. The sinking of the steamship *Lucia* (C) 64
DONOVAN, WILLIAM P., necrology and portrait 717
DOOLEY, C. R. Intensive training..... 37
DOREMUS, C. A. The engineer as a citizen (D) 451
DOW, ALEX. Aims and organization report (D) 604, 605, 607
DOW, GEORGE A. Performance of the "Libby Maine" 378
DOWNING, P. M. Sources of energy supply 267
DUFFY, LIEUT. COL. FRANK J., necrology and portrait 202
DURFEE, WALTER C. Elements of a general theory of airplane-wing design..... 728

E

Eagles, Ford boats (illustration)..... 18
Eastern New York Section, first meeting of vi (Dec.)
Economical section of water conduit for power development 369
Economy of Arizona power plants using oil fuel 523
Education, industrial service (C)..... 388
of a petroleum engineer..... 816
Educational work of our Army abroad.... 288
Efficiency and democracy..... 43
Efficiency, refrigerating plant..... 362
EGBERT, HARRY DREW, necrology..... 493
EHRMAN, E. H. Standardization of screw threads (D) 161
Eighty-niners, reunion of..... 482
ELDERKIN, P. N., GRAY, G. F. (Capt.), REED, J. W. (Lt.). Air fans for driving generators on airplanes... 527
Electrical measurement of fluid flow in pipes 429
Electric arc welding..... 452
consolidations and their relations to fuel conservation 266
furnace practice in foundries, modern. 874
furnaces as applied to steel making... 245
welding as applied to ship construction 439
Electric Railway Commission, Federal..... 708
Electrification, railroad, as a fuel-conservation measure 268
ELY, S. B. Aims and organization report (D) 605
Emergency Fleet Corporation, organization of the U. S. Shipping Board..... 32
Water-tube boiler for wood ships..... 943
EMERSON, H. Industrial relations (D)... 579

Employers plan national organization..... 848
Employment bulletin.87, 1 (Feb.), 1 (Mar.) ix (Apr.), ix (May), iv (June), vi (July), iii (Aug.), iv (Sept.), vi (Oct.), vi (Nov.), viii (Dec.)
Employment bulletin of Engineering Societies, note on..... 776
bureau of the four societies..... 67
service, regarding the Society's (C).. 613
Energy, production of..... 265
supply, sources of..... 267
Engineer as a citizen..... 448
broader opportunities for the..... 6
Corps under the proposed Army reorganization 853
in foreign service, the..... 31
Engineering achievements of the Army... 372
coöperation, the Cleveland plan of.... 182
conditions in France..... 262
Engineering Council....287, 408, 488, 557, 632, 709, 784, 851, 910, 972
Washington office opened by..... 287
acts on public works control..... 288
extracts from annual report..... 408
committee considering engineers' license laws 409
hearing on classification and recompensation of railroad engineers by.. 488
conference of National department of public works 557
Engineering delegates report to French Congress 486
delegates tell of their observations abroad 263
Engineering Index.94, 207, 309, 1a (April), 1a (May), 1a (June), 1a (July), 1a (Aug.), 1a (Sept.), 1a (Oct.), 1a (Nov.), 1a (Dec.)
descriptive note of the transfer of, from Industrial Management 67
1919 903
note on 628
Engineering Institute of Canada..... 301
Engineering, naval, achievements in the war 18
of man power, keynote session at 39th Annual Meeting 27
Engineering Research...186, 294, 410, 464, 534, 691, 759, 825, 888, 952
Engineering service by the Government, recognition of (C)..... 756
societies' committees on aims and organization 17
societies, news of.....299, 414, 490, 560, 635, 712, 850, 969
Engineering Society of Western Massachusetts organizes, 637; meeting... 908
Engineering Standards Committee, American 70
Engineering Survey (*See* separate index).
Engineers' club of St. Louis alive to municipal affairs 299
Engineers in the 1920 U. S. census..... 912
Engineer's ladder of fame, an unoccupied rung in the..... 293
Engineers' Society of Western Pennsylvania, meeting 414
Engines, Diesel, and the merchant marine. 377
Diesel, on the Pacific coast..... 377
kerosene, suggested formula for rating 672
England, a lesson from.....iv (July)
and France, a word about conditions in, W. W. Macon..... 183
Ennis, W. D. Arizona power plants using oil fuel (D)..... 662
Crude-oil motors vs. steam engines in marine practice (D)..... 679
Ericsson, Captain John, recollections of. 260
Erie Section.....80, v (Mar)
Erlenkotter, W., necrology..... 640
European industrial activity, after-war... 778
Executive committee notes.....iii (Nov.)
Extinguishing and preventing oil and gas fires 438

F

Fans, air, for driving generators on airplanes 527
Farnham, D. T. Industrial relations (D). 580
Fatigue phenomena in metals: progress report of the Committee on..... 731
Federal Electric Railway Commission.... 708
Feiss, Richard A. Industrial relations (D) 574
Non-financial incentives in industry (D) 29
Felgar, J. H. The education of a petroleum engineer 816
Field piece, heavy, with mobile mount.... 375
Finance committee, report of the.....xv (Dec.)
Fire engines and effective fire fighting.... 503
fighting, fire engines and the essentials of (C) 689
Fires, oil and gas, extinguishing and preventing 436
First steamship to cross the Atlantic (C). 690
Fisher, Boyd. Industrial relations (D).. 573
Fisher, E. C., portrait..... 76
Fittings, marine practice in valves and, 135; (C) 273
Flanders, Ralph E. The weights and measures of Latin America (D).... 39
Fleckenstein, A. C. Industrial organization as it affects executives and workers (D) 28
Fletcher, E. L., portrait..... 76
Fletcher, James R., necrology and portrait 914
Flight, another first..... 707
Flow of water through condenser tubes... 949
Fluegel, Gustav. Centrifugal compressors. 795
Fluid flow in pipes, electrical measurement of 429
Flynn, James J., necrology..... 640
Folsom, D. M. Future requirements of oil 266
Foran, George J., exhibits steel carving.. 906
Ford plant, production of liberty motor parts at 517
Foreign coals and stoker installations (C). 756
service, the engineer in..... 31
Forge, the; St. Louis Section bulletin.... v (July)
Forest Smithy, a masterpiece of steel carving, The 906
Fouhy, C. E. Labor dilution as a national necessity (C) 388
Foundries, modern electric-furnace practice in 874
Fox, C. H. Fire engines and effective fire fighting 503
France, engineering conditions in..... 262
Freeman, John R., Elements of a general theory of airplane-wing design (D). 729
French Engineering and Economic Commission ..... v (Dec.)
Fritz, John. (See John Fritz)
Fuel administration in Missouri..... 271
conservation 264
conservation, David Moffat Myers on. 269
conservation, district steam heating as related to 268
conservation, electric consolidations and their relations to..... 266
conservation measure, railroad electrification as a..... 268
problem and the Hvid engine..... 918
problems of the Pacific coast..... 264
pulverized coal as a..... 645
saving in industrial plants..... 750
Session of Spring Meeting, discussion at 652
Furnaces, electric, as applied to steel making 245

G

Gage blocks, precision, manufacture of, at the Bureau of Standards.....289, 484
laboratories of the Bureau of Standards 290
limits in interchangeable manufacture 803
Gages, certification of at Bureau of Standards 800
standardization of, Government action on recommendations of committee on 185
Galbraith, G. W., portrait..... 76
Gantt, Henry L. Efficiency and democracy 43
Non-financial incentives in industry (D) 29
necrology 974
Gardner, H. L. Industrial relations (D). 578
Garvin, George K., necrology..... 417
Gas as a conservation measure..... 266
power session of Spring Meeting, discussion at 679
Gasoline engine design, post-graduate course in 849
Geier, Otto P., Industrial relations (D).. 573
Gerhard, W. P. Relative corrosion of wrought-iron and steel pipe; closure to discussion on..... 459
Germany, movement in, toward union of technical men..... 849
Gilbreth, Frank B. Aims and organization report (D) 604
Non-financial incentives in industry (D) 30
Glues, properties and preparation of..... 382
Goethals, Major-Gen. G. W., the John Fritz Medal awarded to..... 182
Receives John Fritz Medal..... 639
Golden, Michael J., necrology..... 304
Goldsmith, Clarence. Fire engines and the essentials of fire fighting (C)... 689
Gordon, Mack. Industrial relations (D). 576
Gorton, C. E. Aims and organization report (D) 607
Government activities in engineering..... 711
boards and commissions, activities of Council representatives on..... 784
Grace, John F. Industrial organization as it affects executives and workers (D) 28
Gray, G. F. (Capt.), Reed, J. W. (Lt.), and Elderkin, P. N. Airs fans for driving generators on airplanes.... 527
Great Britain, coöperation in research by Government of 691
Greene, Arthur M., Jr. Condition of research in the United States..... 587
Gregg, R., portrait..... 76
Gregory, W. B. (Major). Pumping machinery used by service of supply of American Expeditionary Forces (C) 462
Guething, T. H., necrology..... 641
Guiteras, Julian G., necrology..... 717
Gulley, Laurence R., necrology..... 304
Guns, navy, long-range, heavy, with railway mounts 25
Gustafson, L., portrait..... 77

H

Hadfield, Sir Robert, prize..... 482
Hale, Dr. George Ellery, honor for..... 629
resigns as chairman of National Research Council 539
Hall, John A., necrology..... 974
Hammond, Richard, necrology..... 914
Hampson, Donald A. Recognition of engineering service by the Government (C) 756
Handy, J. O. Relative corrosion of wrought-iron and steel pipes (D)..... 457
Harrison, N. C. Pulverized coal as a fuel (D) 645, 756
Hansen, A. E. Relative corrosion of wrought-iron and steel pipes (D).. 456
Hartford Branch (*See* Connecticut Section)
Hardesty, S. Stresses in wire rope (D).. 257
Hartness, James. The British Engineering Standards Association (D)..... 160
Optical projection for screw-thread inspection 127
The weights and measures of Latin America (D) 39
Standardization of Society aims..... 555
Hawker, Harry G., attempts trans-Atlantic flight 554
Haynes, Claude P., necrology..... 202
Hayward, H., S., necrology..... 641
Hazlehurst, James N., necrology..... 492
Heat transmission, research in..... 295
treatment of low-carbon steel..... 239
Heavy field piece with mobile mount..... 375
Heavy-oil engine 438
Heilman, Carl Anthony, necrology and portrait 854
Helium from natural gas, the production of 155
Henderson, Joseph W., necrology..... 492
Henes, Henry W., necrology..... 717
Henning, John L. Industrial relations (D) 577
Heritage, A. M. (Major), Refrigeration requirements of chemical warfare.. 806
Hess, Henry. A useful industrial diagram (C) 165
The usual misleading and the correct statement of averages (C)..... 954
Discussion of Society policy urged (C) 757
Hess, Henry Lawrence. Electric furnaces as applied to steel making... 245
Hibbard, H. Wade. The fuel administration in Missouri..... 271
Pulverized coal (D) 660
High-pressure rotary compressor, a perfected 877
Hill, Halbert P. Refrigerating plant efficiency (D) 368
Hill, Harold H., necrology..... 81
Hinchey, H. J. O. Aims and organization report (D) 608
Hoagland, Frank O. Standardization (D) 160
Hobart, Henry M. The weights and measures of Latin-America (D)..... 39
Hobs and worms, thread forms for..... 872
Hodgkins, George S., necrology..... 304
Hollis, Dr. Ira N. Address before the Engineering Institute of Canada... 302

Honor, Roll of (*See* Roll of Honor)
HOOD, M. E. Working-force report—stability chart (C) 65
HOOVER, HERBERT. Portrait 831
To head Mining and Metallurgical Engineers 968
welcome-home dinner to 831
HORNE, GEORGE A. Refrigerating-plant efficiency (D) 368
Horsepower of resistance in aeroplane design 721
HORTON, E. Q., necrology 642
HOSKINS, STEPHEN P., necrology and portrait 493
HOWARD, E. D. and KENDALL, H. P. Standardization and administration of wages 35
HOWARTH, H. A. S. Slow-speed tests of Kingsbury thrust bearings 915
HOWE, H. E. The organization of an industrial laboratory 663
HUGHES, R. H., necrology 641
Human factor in the operation of industry 886
HUNT, CAPT. ROBERT W., eightieth birthday anniversary of 68
A word from 68
HUNTER, JOHN S., necrology 82
HUTCHINSON, C. T. Economical section of water conduit for power development 369
HUTSON, HENRY L., necrology and portrait. 202
Hvid engine and the fuel problem 918
Hydraulic-turbine runner, a new type of .. 921
Hydroelectric plants, advances in automatic control in 556

I

ILLMER, LOUIS. Crude-oil motors vs. steam engines in marine practice (D) 679
Illuminating Engineering Society 970
Indianapolis meeting of mid-sections 847
Section 197
Industrial activity, after-war European ... 778
development in the Trans-Missouri region 821
diagram, a useful (C) 165
economics, prize essay contest in 289
executives, the training of 776
laboratory, organization of 663
management, summer school of 629
personal relations 581
plants, fuel saving in 750
relations (C) 833
relations, discussion on 572
relations, report of the committee on. 715
relations, the status of 513
research 825
research laboratory organization 667
service education (C) 388
unrest 884
Industrial Engineers, the Society of, meeting 491
Industry, the human factor in the operation of 886
Information service for engineers 558
Inspection of airplanes at Romorantin, France 819
Institute of Radio Engineers, meeting 560
Intensive training 37
Interchangeable manufacture, gage limits in 803
International Electroctechnical Commission 967
International Railway Association, meeting 908
International Railway Fuel Association, meeting 636
International standardization 706
International Trade Conference 969
Inter-Professional Conference ..... v(Dec.)
ISHAM, HENRY S., necrology 304
IVES, EARL E. (Lieutenant). Inspection of airplanes at Romorantin, France ... 819

J

JACKSON, ANDREW C. Non-financial incentives in industry (D) 30
JAMES WATT centenary ..... (See Watt, James)
JACOBI, W. H. and WELLES, E. R. Pulverized coal as a fuel for boilers 744
JEFFRIES, ZAY. Research session (D) 670
JETER, S. F. Aims and organization report (D) 607
John Fritz medal awarded to General Goethals 182, 639
JOHNSON, CHARLES E., necrology 417
JOHNSON, C. W. Industrial organization as it affects executives and workers (D) 28
The weights and measures of Latin America (D) 40
JOHNSON, JOSEPH E., Jr., necrology 562
JOHNSON, J. F. The large steam turbine. 355
JOHNSON, L. H. Crude-oil motors vs. steam engines in marine practice (D) 681
JONES, E. C., portrait 77
JONES, FRANK C., necrology 201
JONES, M. M. Industrial relations (D) .. 578
JONES, PAUL, necrology 305
JOURDIN, W. W. Arizona power plants using oil fuel (D) 662
Junior and Student Prizes ..... ii(Apr.)
Junior members, a plea for the enfranchisement of (C) 907
JUST, GEORGE A., necrology 305

K

KARTSHER, H. S. Certificates for engineers in war service in the U. S. (C) 954
KELLEY, WILLIAM D., necrology 562
KENDALL, H. P. and HOWARD, E. D. Standardization and administration of wages 35
KENERSON, W. H. Relative corrosion of wrought-iron and steel pipes (D) .. 456
KENNELLY, A. E. The weights and measures of Latin America (D) 40
KENT, R. T. Aims and organization report (D) 604, 605, 606
Kerosene engines, suggested formula for rating 672
KIMBALL, D. S. Aims and organization report (D) 604, 605
KINGSBURY, ALBERT. Research session (D) 718
Kingsbury thrust bearings, slow-speed tests of 915
KIRCHWEY, DR. G. W. Abstract of address given at 39th Annual Meeting, December, 1918 1
KNOEPPEL, CHARLES E. Industrial organization as it affects executives and workers (D) 28
Industrial relations (D) 580
KORALEWSKY, F. L. Carver of "The Forest Smithy" 906
KREISER, WALTER W., necrology 974
KREISINGER, H. and DEAN, F. W. E. F. C. water-tube boiler for wood ships ... 943

L

Labor and capital, President Wilson's conference on 848
and scientific research 629, 691
dilution as a national necessity (C) .. 387
problem discussed at New York section meeting 846
Laboratory organization, industrial research 667
organization of an industrial 663
LACY, ROBERT. Laying a 6-ft. water pipe across the Passaic River (C) 532
Proposed modified form of screw thread as an international standard (C) 272
LAND, FREDERICK L., necrology 492
LARKIN, FRED A., necrology 974
LAUDERBURN, D. E. The weights and measures of Latin America (D) 40
LAUER, C. N., portrait 77
LAW, OCTAVIUS A., necrology 202
LEAUTE, HENRY, necrology 418
LEFFLER, LEO J., necrology 202
Legislation, the relation of the engineer to 448
LEIGHTON, M. O., manager of Washington office of Engineering Council 287
LEISENRING, FRANK S., necrology 203
LEISERSON, W. M. Industrial relations (D) 577
Industrial unrest 884
Leland Stanford Jr. Student Branch suggestions ..... ii (Aug.)
LEWIS, N. P. The relation of the engineer to administration 449
LEWIS, WILFRED. Standards for large taper shanks and sockets 163
"Libby Maine," performance of the 378
LIBBY, S. H. Industrial relations (D) 574
Liberty engine tests 245
motor (illustration) 21
motor, enemy opinion of the 707
motor parts, production at Ford plant of 517
Library, acessions to the 86, 421, 566, 644, 720, 794
Library Board, annual report of the 183
Notes 84, 205, 307, 420, 495, 565, 643, 719, 793, 857, 975
recataloging the U. E. S. 782
LIEBERMAN, N. L. The horsepower of resistance in aeroplane design 721
Lifts, mechanical—past and present 507
LINDEMANN, A. S., necrology 641
LITTLE, A. D. The organization of an industrial laboratory 663
LITTLE, THOMAS J., Jr. Standards of carburetor performance (D) 681
LLOYD, BRUCE. Diesel engines on the Pacific coast 377
Local Sections (See Sections)
Locomotive boilers, improvements in (C). 387
steam, scientific development of the .. 864
LOGAN, FRANK J., necrology 913
Long-range heavy navy guns with railway mount 25
Loomis cooling system for aircraft 255
LORD, CHARLES E., necrology and portrait 913
LORD, CHESTER B. A perfected high-pressure rotary compressor 877
Thread gages (D) 160
Threads and thread gages (C) 531
Los Angeles Section ..... viii(Apr.)
LOTZ, C. W. Pulverized coal (D) 660
LOW, FRED R. Aims and organization report (D) 607
Vice-president, 1918-1919, biographical sketch of 73
Our cities awake, book review 308
Low-carbon steel, heat treatment of 239
Lubrication of air compressors 384 (C) ... 532
of ball bearings 811
report of sub-committee on 537
LUCHARS, ALEXANDER, appointed U. S. Trade Commissioner abroad 556
LUCIA, the sinking of the steamship (C) .. 64
LUCKE, CHARLES E., promoted in Naval Reserve 708
LUNDGREN, E. Pulverized coal (D) 659
LYNCH, THOMAS M., necrology 417

Mc

MCCORMICK, C. Industrial relations (D) 575
MCCREA, C. L. Heavy field piece with mobile mount 375
MCFARLAND, W. M. George Westinghouse, book review 205
MCGWIRE, CHARLES H., necrology 854
Portrait of 77
MCKINNEY, EDWARD B., necrology 563

M

Machine-gun cooling problem 290
Machinery, government-owned, proposals for technical institutions to obtain. 404
Machining of bearings, common errors in the 879
MACON, W. W., portrait 77
A word about conditions in England and France 183
MAGRUDER, W. T. Aims and organization report (D) 606
Standardization of screw threads (D) 161
Suggested formula for rating kerosene engines (D) 681
MAIN, C. T. Aims and organization report (D) 606
Broader opportunities for the engineer 6
Engineering delegates report to French Congress 486
Engineering problems connected with reconstruction 262
Malleable iron, research work on 593
MANNING, CHARLES H., necrology and portrait 562
Man power, the engineering of, keynote session at the 39th Annual Meeting ... 27
MARBLE, E. G., necrology 641
MARBURG, L. C. Aims and organization report (D) 605, 607
The engineer as a citizen (D) 451
Letters from C. T. Clayton and R. V. Rickford to 290
Presentation of the progress report of the Committee on Aims and Organization 12
Marine practice, crude-oil motors vs. steam engines in 609
Marine practice in valves and fittings 135, (C) 273
MARKEY, H. S. District steam heating as related to fuel conservation 268
MARKWART, A. M. Production of energy .. 265
MARSH, T. A. Pulverized coal (D) 652
MARTELL, LOUIS H., necrology 493
MARTIN, HAROLD M. A new theory of the steam turbine 150
Material-Handling Machinery Association formed 414
MAYO, E. C., portrait 77

MECHANICAL ENGINEERING, the new name of the Journal of the American Society of Mechanical Engineers... 67
Mechanical features of the vertical-lift bridge (D) 379
lifts—past and present..... 507
MEES, K. C. Industrial research laboratory organization 667
Membership, candidates for.....91, v(Feb.) vii (March), xi (Apr.), xiii (May), ix (June), xi (July), vii (Aug.), ix (Sept.), x (Oct.), xiv (Nov.), xiii (Dec.)
Members' addresses required.....vi(July)
Merchant marine, diesel engines and the.. 377
Meriden Branch (*See* Connecticut Section)
Metals, fatigue phenomena in: progress report of the Committee on..... 731
Michigan, University of, teaches naval architecture 484
Mid-Continent Section viii(Apr.), iv(June), vi(Dec.)
Papers presented at first meeting of the 816
Mid-section meeting, joint..... 847
Mid-West Sections meeting of the A.S.M.E. 902
MILES, H. E. Intensive training (D).... 31
MILLER, FRED J. Aims and organization report (D) 604, 605
Industrial relations (D)..... 572
joins the A.S.M.E. staff as consultant 552
MILLER, G. P. Industrial relations (D).. 576
MILLER, SPENCER. Non-financial incentives in industry (D)..... 30
The relation of the engineer to public opinion 449
MILNE, JAMES. The first steamship to cross the Atlantic (C)..... 690
Milwaukee Section.....v(Mar.), vii(May)
Mines, United States Bureau of..... 825
dedication of the Pittsburgh Station.. 903
Mining and Metallurgical Engineers, Herbert Hoover to head..... 968
Minnesota Section 198, v(Mar.), ix(Apr.), vii(May), vi(Dec.)
Missouri, the fuel administration in..... 271
Mobile mount, heavy field piece with.... 375
MOHR, LOUIS, necrology..... 913
MONTGOMERY, STAFFORD. Suggested formula for rating kerosene engines (D) 681
MOORE, H. F. Progress report of the committee on fatigue phenomena in metals 731
MOORE, JOHN B. The weights and measures of Latin America (D)..... 40
MOORE, P. N. The civic responsibility of the engineer 448
MOORE, W. E. Modern electric-furnace practice in foundries..... 874
MORTON, J. W. Crude-oil motors vs. steam engines in marine practice..... 609
Motor gasoline 586
transport vehicles, army..... 859
trucks, Government to give to States 555
MUHLFELD, JOHN E. Pulverized coal (D) 658, 752
Scientific development of the steam locomotive 864
MULLANEY, JOHN E. Efficiency and democracy (D) 42
Munitions production, interesting figures on 484
MUSSO, ALFRED. Investigation of strains in rolling of metal..... 937
MYERS, DAVID MOFFAT, on fuel conservation 269

N

NAGLER, FORREST. A new type of hydraulic-turbine runner 921
National budget, the..... 777
National Electric Light Association, meeting 635
National Fire Protection Association, meeting 635
National Foreign Trade Convention..... 560
National Gas Engine Association, meeting. 712
National Machine Tool Builders' Association, meeting 560, 969
National Metal Trade Association, meeting 560
National Research Council (Division of Engineering)....485, 559, 631, 711, 786
report of the Patent Committee to.... 147
reorganizes its division of engineering 973
National Safety Congress, meeting..... 908
National Service Committee 287, 488, 557, 633, 709, 784, 852, 911, 972
Natural gas, the production of helium from 155
NAUMBERG, R. E. Regarding the Society's employment service (C)..... 614
Naval aircraft factory..... 142
illustrations of 144, 145
engineering in the war, the achievements of 18
Navy U. S. guns, long-range, heavy, with railway mount 25
makes trans-Atlantic flight..... 554
Necrology 81, 200, 304, 417, 492, 562, 640, 716, 790, 854, 913, 974
Neville Island, Washington announces the abandonment of 407
NEELY, FREDERICK L., necrology..... 563
NEWCOMBE, CHARLES L., manager 1918-1919, biographical sketch of..... 73
New England Water Works Association, convention 850
New York Section .....198, 438, v (Mar.), ix (Apr.), vii (May), iv (June), v (July), iv (Oct.), vi (Dec.)
meeting, labor problem discussed at... 846
new year meeting of..... 194
NICHOLS, ALLEN E., necrology..... 791
Nominating Committee, report of the..... 628
Nominations for offices of the Am.Soc. M.E. .....vii (Apr.)
NORCROSS, J. A., portrait..... 76

O

OATLEY, H. B. Crude-oil motors vs. steam engines in marine practice (D).... 680
Octaval notation in shop measurements... 870
Officers and council of the Society for 1919 66
Officers of the Society, biographical sketches of the new..... 72
Oil fuel, economy of Arizona power plants using 523
Discussion on 661
Oil, future requirements of..... 266
pipe lines 883
shales, experimental work on..... 824
OPHULS, FRED. Refrigerating plant efficiency (D) 368
Opportunities for the engineer, broader... 6
Optical projection for screw-thread inspection 127
Ordnance Department, U. S. A., certificate issued by (illustration)..... 954
Organization and Aims (*See* Aims and Organization)
Organization, industrial research laboratory 667
of an industrial laboratory..... 663
of the U. S. Shipping Board Emergency Fleet Corporation, Chart showing 34
OSGOOD, FARLEY. The engineer as a citizen (D) 451
OTTESEN, FREDERICK. Suggested formula for rating kerosene engines (D).... 681
Our cities awake, book review..... 307
"Over the top" in France (C)..... 164
OVIATT, DAVID B., necrology..... 564

P

Pacific coast, diesel engines on the..... 377
coast, fuel problems of the..... 264
Pan-American Congress, proposed..... 489
Pan-American Financial Congress..... 967
Engineers in the..... 824
PARKER, JOHN C. Non-financial incentives in industry (D) 30
PARSONS, G. K. Aims and organization report (D) 603
Passaic River, laying a 6-ft. water pipe across the (C)..... 532
Patent committee, report of the, to the National Research Council..... 147
office, strengthening of the..... 758
situation in the United States..... 147
Patents legislation 709
PEABODY, E. H. Pulverized coal (D)..... 655
PECK, E. C. Gage limits in interchangeable manufacture 803
Pennsylvania State College, the thermal testing plant of the engineering experiment station of the..... 464
Personals....86, 205, 306, 419, 493, 564, 642, 717, 791, 855, vi (Dec.)
Personnel exhibit, classification of..... 405
Petroleum engineer, the education of a.... 816
Philadelphia Section.....198, v (Mar.), ix (Apr.), iv (June), vi (Dec.)
PHILLIPS, R. G. A. Industrial relations (D) 579
Physical and chemical control of boiler operation 137
PIEZ, CHARLES. Organization of the U. S. Shipping Board Emergency Fleet Corporation 32
snapshot of, with G. W. Dickie and C. M. Schwab 70
PIGOTT, R. J. S. Marine practice in valves and fittings (C) 274
Report of the sub-committee on fluid meters 70
Pipe lines, oil..... 883
threads, Committee on International Standard for, meeting..... 846
wrought-iron and steel, relative corrosion of 455
Pipes, electrical measurement of fluid flow in 429
PITKIN, JULIAN H., necrology..... 974
PITMAN, STEPHEN M., necrology..... 203
Pittsburgh station, Bureau of Mines, dedication of 903
PLANK, WILLIAM J., necrology..... 82
PLATT, W. O. How can engineers be of greatest use to civilization? (C)... 613
POLAKOV, WALTER N. Efficiency and democracy (D) 42
Non-financial incentives in industry (D) 29
PORTER, H. F. J. Industrial relations (C) 833
(D) 574
Standardization and administration of wages (D) 28
POTTER, A. A. Intensive training (D).... 31
POWELL, H. J. BINGHAM. Present practice in thread-gage-making (D)..... 161
The weights and measures of Latin America (D) 40
Power development, economical section of water conduit for..... 369
plants using oil fuel, economy of 523 (D)..... 661
supply to the A. E. F. in France..... 167
tests codes, formulation of..... 780
PRARAY, C. W., necrology..... 641
PRATT, H. A. The engineer as a citizen (D) 451
Present-day problems discussed by E. W. Rice, Jr. 955
President Wilson's conference on capital and labor 848
PRINDLE, EDWIN J. The patent situation in the United States..... 147
Printers' strike, editorial note on..... 902
in New York Ended..... 966
Problems, some twentieth-century..... 445
Production and distribution, the relation of the engineer to..... 450
a new attitude toward increased..... 707
Providence Engineering Society 80, 198, v (Mar.), iv (June), v (July)
Publications delayed by labor conditions.iii(Nov.)
Public opinion, the relation of the engineer to 449
works, a comment on the Department of 784
works, an explanation of the proposed department of 852
works control, engineering council acts on 288
works, department of..... 709
Public Service Commission, New York, discharged engineers of, now reinstated 287
PULSCHEN, HENRY G., necrology..... 417
Pulverized coal as a fuel..... 645
coal as a fuel for boilers..... 744
coal for stationary boilers..... 650
Pumping machinery used by service of supply of American Expeditionary Forces in France (C)..... 462
Pump, vacuum, volumetric efficiency test of a 828
Pumps, air, for condensing equipment..... 926
Purdue University, research work and new equipment at 295

R

Railroad control, plans for..... 558
electrification as a fuel-conservation measure 268
Railway artillery 44
Railway Electrical Engineers, Association of, meeting 969
Railway mount, long-range heavy navy guns with 25
RAUTENSTRAUCH, WALTER. The training of industrial executives (note on)..... 777
RAY, D. H. Appraisal and valuation methods 931
RAYMOND, ROSSITER W., necrology and portrait 200
RAYNAL, ALFRED H., necrology..... 418

RAYNER, CYRUS T., necrology 914
Readjustment of labor 447
Recataloging the U. E. S. Library 782
Reconstruction, engineering problems connected with 262
REED, JAMES (Com.) Torpedo-boat destroyers in the making 739
REED, J. W. (Lt.), GRAY, G. F. (Capt.) ELDERKIN, P. N. Air fans for driving generators on airplanes 527
Refrigerating plant efficiency 362
Refrigeration requirements of chemical warfare 806
Rehabilitation of the blind, appeal from the chairman of the committee on 847
REID, GEOFFREY L., necrology 203
REILLY, C. J., necrology 641
REILLY, P. J. Industrial relations (D) .. 576
REIMER, ARTHUR A. Intensive training (D) 31
Relation of an engineering society to the training of workers 290
Relations with Colleges, Committee on ..ii (Oct.)
Report of Committee on Society Awards .....ii (Oct.)
Report of Committee on Student Branches .....ii (Oct.)
Research, coöperation in, by Government of Great Britain 691
Research Committee 70
Report of sub-committee of on fluid meters 70
Report of sub-committee of on bearing metals 70
Research, Engineering 186, 294, 410, 464, 534, 691, 759, 825, 888, 952
Research in the United States, condition of 587
Correction to above paper 764
laboratory organization, industrial ... 667
scientific, and labor 629, 691
session at Spring Meeting, discussion at 669
work on malleable iron 593
REYNOLDS, JAMES J. Efficiency and democracy (D) 42
REYNOLDS, L. C., necrology 913
Rhodes Scholarship headquarters 967
RICE, CALVIN W. Aims and organization report (D) 604, 608
Contributions on Society policy (in response to Mr. M. L. Cooke's letter) 688
Secretary's letter.66, 181, 286, 1 (Apr.) 1(May), 1 (June), ii (July), ii (Aug.), iii (Sept.), ii (Oct.), iii (Nov.), iii (Dec.)
RICE, E. W., JR. Present-day problems discussed by 955
RICHARDS, CHARLES B., necrology and portrait 493, 562
RICHARDS, CHARLES RUSS, manager 1918-1919, biographical sketch of 74
Research session (D) 670
RICHARDS, HOWARD, JR. The weights and measures of Latin America (D) 39
RICKFORD, R. V., letter from, to L. C. Marburg 290
Right man in the right place in the Army. 423
RILEY, R. SANFORD. Pulverized coal (D) .. 661
RINDGE, F. H. Industrial service education (C) 388
ROBBINS, JOHN L. Relative corrosion of wrought-iron and steel pipe (D) ... 456
ROBBINS, J. F. (Lieut.) Mechanical lifts —past and present 507
Roberts College, a word from 630
ROBINSON, BARTON J., necrology 974
ROHLIG, GEORGE GUSTAV, necrology 82
Rolling of metal, investigation of strains in 937
Roll of honor 83, 416
Romorantin, France, the inspection of airplanes at 819
Rope, stresses in wire (D) 257
Rotary compressor, a perfected high-pressure 877
ROUSSEAU, EDWIN H., necrology 203
ROWE, L. S. The engineer in foreign service 31
Runner, a new type of hydraulic-turbine .. 921
RUSSELL, JAMES W. Intensive training (D) 31

S

SACKETT, ROBERT L. Non-financial incentives in industry (D) 30
St. Louis Section v (Mar.), ix (Apr.), vii (May), iv (June), v (July), ii (Aug.), vi (Dec.)
Salaries of engineers in Canada 966
San Francisco .....vi (Dec.)
SARGEANT, FREDERICK, necrology and portrait 790
SARGEANT, H. R., vice-president 1918-1919, biographical sketch of 73
SCHEFFLER, F. A. Pulverized coal (D) .655, 754
Pulverized coal for stationary boilers. 650
SCHNEIDER, EUGENE, of France, honored by engineers 967
SCHLINK, F. J. Research session (D) 669
SCHIEFFELIN, WILLIAM J. The weights and measures of Latin-America (D) 40
SCHUHMANN, GEORGE. Relative corrosion of wrought-iron and steel pipe (D). 455
SCHWAB, CHARLES M., Conferring of Honorary Membership on 3
Portrait of 4
Snap shot of, with C. Piesz and G. W. Dickie 70
SCHWABACKER, A. E. Fuel conservation .. 264
Scientific development of the steam locomotive 864
Screw thread as an international standard, proposed modified form of (C) 272
Screw Thread Commission, Acme thread questionnaire issued by 482
delegation sails for Europe 707
final hearing of the National 846
progress of the 182
to be continued 405
Screw-thread inspection, optical projection for 127
SEAGER, H. R. The human factor in the operation of industry 886
Secretary's Letter..66, 181, 286, 1 (Apr.), 1 (May), 1 (June), ii (July), ii (Aug.), iii (Sept.), ii (Oct.), iii (Nov.), iii (Dec.)
Sections, among the local....78, 189, 293, viii (Apr.), v (May), iii (June), v (July), ii (Aug.), iv (Oct.), v (Nov.), v (Dec.)
analysis of activites reported 190
chairman of executive committees, portraits of 75, 76
conference at 1918 Annual Meeting .. 189
development of local .....v (Nov.)
meetings .....80, 197, iv (Mar.), viii (Apr.), vi (May), iv (June), v (July), ii (Aug.), iv (Oct.), v (Dec.)
SEED, CHARLES R., necrology 418
SEGUR, A. B. Intensive training (D) 31
SHARPE, HENRY D. The weights and measures of Latin American (D) 39
SHEPHEARD, GEORGE R., necrology 717
SHERWOOD, M. W., portrait 76
Shipbuilding, efficiency the keynote in 485
Ship construction, electric welding as applied to 439
Shipping Board, U. S., organization of the Emergency Fleet Corporation 32
Ships, wood, E. F. C. water-tube boiler for. 943
Shop measurements, octaval notation in .. 870
SIBLEY, R. Aims and organization report (D) 608
SIMMONDS, JOHN J. Aims and organization report (D) 608
Simplon tunnels, ventilation plant for 612
SINCLAIR, ANGUS, necrology and portrait .. 203
Sixteen hours, twelve minutes, Navy Flight 630
SKINNER, CHARLES E. The weights and measures of Latin America (D) 40
SKINNER, FRANK. The engineer as a citizen (D) 451
SLAYDEN, JAMES L. The weights and measures of Latin-America (D) 40
Slow-speed tests of Kingsbury thrust bearings 915
SMITH, HARRY F. Suggested formula for operating kerosene engines (D) 681
SMITH, CAPT. H. L. Distinguished service cross awarded 708
SMITH, HORACE MILLIKEN, necrology 82
SMITH, JESSE M., Aims and organization report (D) 606, 607
The engineer as a citizen (D) 451
Remarks at business meeting 16
SMITH, O. Aims and organization report (D) 606
SMITH, ROY B., necrology 418
SNOW, W. B. Aims and organization report (D) 604
SNYDER, W. E. Aims and organization report (D) 607
SNYDER, W. E. Pulverized coal (D) 660
Society Affairs..66, 181, 286, Section Two, Apr., May, June, July, Aug., Sept., Oct., Nov., Dec.
Society of Automotive Engineers, meeting, 300, 571
Society of the Promotion of Engineering Education 713
Society policy, contributions on (C) 688
policy, discussion of urged (C) 737
Soldiers and sailors, education of disabled. 404
SPELLER, F. N. Relative corrosion of wrought-iron and steel pipes (D) .. 457
Spring meeting, Detroit, 1919....286, 404, 483
Program of events 553
General account of 567
Discussion at fuel session of 652, 752
Discussion at research session of 669
Discussion at gas power session of ... 679
SPITZGLASS, J. M. Electrical measurement of fluid flow in pipes 429
Stability chart—working force report (C). 65
STANBROUGH, D. G. Industrial relations (D) 577
Standardization and administration of wages 35
international 706
of gages, Government action on recommendation of committee on 185
Standards and technical committee, services of, acknowledged by French Government 628
Standards Committee, American Engineering 70
proposed reorganization of the 638
Standards of carburetor performance 674
STARKWEATHER, W. G., portrait 76
Steam, district, heating as related to fuel conservation 268
engines vs. crude-oil motors in marine practice 609
locomotive, scientific development of the 864
turbine, a new theory of the 150
turbine, the large 355
Steamship, the first, to cross the Atlantic (C) 690
Steel and wrought-iron pipe, relative corrosion of 455
carving, a masterpiece of 906
heat treatment of low-carbon 239
making, electric furnaces as applied to 245
Steel Treaters' Society, convention 850
Stevens Institute, business engineering at. 779
STEVENS, JOHN A., anniversary dinner for. 628
Pulverized coal (D) 661
vice-president 1918-1919, biographical sketch of 73
Still engine 627
Stoker installations, foreign coals and (C) 756
Strains in rolling of metal, investigation of 937
Stresses in wire rope (D) 257
STROM, CARL A., necrology 564
Student Branches .....198, v (Mar.), viii (May), v (July), ii (Aug.)
important recommendations of ....v (Oct.)
SULENTIC, S. A. Oil pipe lines 883
Superinduction-type and constant-volume-type engines, combustion of heavier fuels in 941
SUPLEE, HENRY H. Measurement of thread gages (D) 163
Standardization (D) 160
SWAIN, DR. G. F. Informal report of trip to France as engineering delegate .. 263
SWALLOW, H. J. Efficiency and democracy (D) 42
SWAN, J. J. (Lt.-Col.), The right man in the right place in the army 423
SWASEY, AMBROSE. A tribute to Mr. Wellman 706
SYMONS, W. E. Aims and organization report (D) 604, 605, 607

T

TALBOT, ARTHUR N. Engineering societies' committees on aims and organization 17
The tank-car maintenance problem 817
Taylor Society, meeting 635
to locate in Engineering Societies' Building 414
TAYMAN, G. S. A volumetric efficiency test of a vacuum pump 823
TEACH, J. A., portrait 77
Technical men for the consular service, v (Oct.)
men, movement in Germany toward union of 849
TEN BROECK, FLOYD G., necrology 82
Textile research, a step in the direction of. 405
Thermal testing plant of the engineering experiment station, the Pennsylvania State College 464
Thirteenth Engineers return to Chicago ... 554
THOMPSON, H. L., portrait 77
Thread forms for worms and hobs 872
Threads and thread gages (C) 531
Three-cylinder 60,000-kw. turbine installation 555

Thrust bearings, slow-speed test of Kingsbury 915
TILLSON, GEORGE W. Informal report of trip to France as engineering delegate 263
TINSLEY, JOHN F. Fuel saving in industrial plants 750
Tolerances, theory of (C)..... 832
TOLTZ, MAX. Aims and organization report (D) 606
Topographic mapping 489
appropriation for 709
Torpedo-boat destroyers in the making.... 739
TOUCEDA, ENRIQUE. Research work on malleable iron 593
TOWNE, HENRY R., past-president, reaches a business anniversary..... 554
TOWNLEY, C. The relaton of the engineer to legislation 448
TOWNSEND, DAVID, necrology..... 305
Trade Commissioner, U. S., Alexander Luchars appointed 556
Traffic regulations, campaign for uniform.. 710
Training, intensive 37
Transactions of the A.S.M.E..... 903
Trans-Missouri region, industrial development in the..... 821
TRIPP, SAMUEL F., necrology..... 82
TROTTER, H. R. The lubrication of ball bearings 811
TRUMP, EDWARD N. Pulverized coal (D).. 661
Refrigerating plant efficiency (D).... 368
Turbine, a new theory of the steam..... 150
the large steam..... 355
TURNER, DANIEL. The engineer as a citizen (D) 451
TURNER, WALTER V., necrology..... 417
Twentieth-century problems, some..... 445

U

UEHLING, E. A. The chemical and physical control of boiler operation..... 137
United Engineering Society, annual report of 291
United States Chamber of Commerce (convention) 561
United States, condition of research in.... 587
Correction to above paper..... 764
U. S. Shipping Board emergency fleet corporation, organization of the..... 32
Unoccupied rung in the engineer's ladder of fame 293
UNVERFERTH, CLARENCE H. D., necrology.. 203

V

Valuation and appraisal methods..... 931
Valves and fittings, marine practice in (C) 135, 273
VAN BRUNT, J. Pulverized coal (D)..... 660
VAN CLEVE, H. P. Closure to Dr. Waddell's discussion on the vertical-lift bridge 381
VAN GILDER, G. S. The engineer as a citizen (D) 451
VAN KEUREN, H. L. Certification of gags at Bureau of Standards..... 800
VAUGHAN, H. H. The engineer as a citizen (D) 451
VERNER, W. F. Production of liberty motor parts at Ford plant..... 517
Pulverized coal (D) 661
Vertical-lift bridge, mechanical features of the (D) 379
VIET, RICHARD C., necrology..... 974
Vision, the new (Secretary's letter)...iii (Nov.)
Vocational training, Federal Board of..... 482
Volumetric efficiency test of a vacuum pump 823

W

WADDELL, DR, J. A. L. Mechanical features of the vertical-lift bridge (D) 379
Wage payment 939
Wages, standardization and administration of 35
WALDEN, A. E., portrait..... 76
WALKER, J. H. Central station heating in Detroit 497
WALKER, P. F. Industrial development in the Trans-Missouri region..... 821
Research session (D) 669
WALKER, W. W. Relative corrosion of wrought-iron and steel pipe (D)... 455
WALLACE, L. W. Aims and organization report (D) 608
becomes director of industrial training at Baltimore institute for blind.... 404
Employment of labor (D)..... 30
Industrial relations (D)..... 574
portrait of 77
WALLIS, PHILIP, necrology..... 82
War department equipment for trade, technical schools and universities..... 853
minerals claim 489
service records .....iv (Nov.) 552
Warfare, refrigeration requirements of chemical 806
WARNER, E. P. Elements of a general theory of airplane-wing design (D). 730
WARNER, WORCESTER R. Honorary membership conferred by Cleveland Engineering Society 629
past-president, goes to Europe.....ii (Apr.)
Warping of aircraft propellers..... 592
Washington Section.....198, vii (May), v (July), vi (Dec.)
organization of 78
Waterbury Branch (*See* Connecticut Section)
Water conduit for power development, economical section of..... 369
WATERMAN, B. F. Thread forms for worms and hobs 872
Water-power legislation 709
Water-tube boiler for wood ships, E. F. C.. 943
WATKINS, ALFRED. Octaval notation in shop measurements 870
WATT, JAMES, centenary....690, 907, iii (Sept.)
Welding, electric arc..... 452
electric, as applied to ship construction 439
WELLES, EDWARD R. and JACOBI, W. H. Pulverized coal as a fuel for boilers. 744
WELLMAN, SAMUEL T., necrology and portrait 716
A tribute to by Ambrose Swasey..... 706
WELLS, FRANK O., manager 1918-1919, biographical sketch of..... 74
WELLS, ROBERT G. Employment of labor (D) 30
Western Society of Engineers, congratulations to 902
discuss transportation situation..... 850
Westinghouse, George, book review..... 205
Westinghouse scholarships as war monuments 531
WEYMOUTH, C. R. Economy of Arizona power plants using oil fuel..523 (D) 661
WHEELER, F. R. Air pumps for condensing equipment 926
WHEELER, W. T., necrology..... 642
WHITE, W. M., portrait..... 77
WHITLOCK, ELLIOTT H. (Col.), letter from 288
WHITNEY, CHARLES SMITH, necrology..... 82
WIGMORE, JOHN H. The weights and measures of Latin America (D)..... 40
WILKIE, W. M. Heat treatment of low-carbon steel 239
WILLISTON, ARTHUR L. Intensive training (D) 31
Non-financial incentives in industry (D) 30
WILSON, HUGH M., necrology..... 914
Wire rope, stresses in (D)..... 257
Wolfe-Barry, Sir John Wolfe, sketch and portrait 971
WOOD, ARTHUR J. Research session (D).. 669
WOOD, W. H. Improvements in locomotive boilers (C) 387
Worcester Section....v (Mar.), ix (Apr.), iv (June), vi (Dec.)
Working-force report—stability chart (C). 65
Worms and hobs, thread forms for..... 872
WOTHERSPOON, W. L. Pulverized coal (D) 660
WRIGHT, ORVILLE, conferring of Honorary Membership on..... 5
Portrait of 5
Wrought-iron and steel pipe, relative corrosion of 455

Y

YARNAL, D. R. Aims and organization report (D) 607
Year book shows membership of 10,192... vii (Apr.)
YOUNG, ARTHUR H. Industrial personnel relations 581
YOUNG, GILBERT A. Pulverized coal (D).. 660
YOUNGER, JOHN. Army motor-transport vehicles 859

Ramsey, C. E. ... 474
Rateau, Professor ... 476
Rawdon, Henry S. ... 958
Recrystallization in deformed non-ferrous metals ... 50
Refrigerating machine, Clothel ... 901
machinery, CO_2 ... 774
processes, vapor ... 401
vapor, processess ... 401
Reichelt, E. ... 696, 698
Reinhardt, G. A. ... 766
Residual gases ... 768
Resilience in indicating instruments ... 396
Richart, F. E. ... 624
Richtmyer, F. H. ... 840
Ridgway Dynamo and Engine Company ... 842
Rifle-barrel steel ... 772
Ring, two-part piston ... 770
Ritz ... 58
Roller, ball and, bearings ... 771
Rosenhain furnace ... 836
Ross, Wm. H. ... 167

S

Safety practice in power-press work ... 703
St. John steam meters ... 172
St. Paul, generator wreck at ... 177
Sand, molding ... 471
Sanders pressure-gas turbine ... 898
Schlink, Frederick J. ... 396
Schmid ... 53
Schmid, K. ... 700
Schubach, P. ... 58
Schuch process ... 770
Schultz, G. ... 391
Schwager, Otto ... 699
Scott, H. ... 618, 836
Screw-cutting lathe, precision ... 281
Seepage tests ... 394
Seewer governor for hydraulic turbines ... 893
Seewer, M. ... 893
Segregations of heat ... 542
Selleck, Theo. G. ... 542
Separation machines, centrifugal ... 480
Sheldon, Ellsworth ... 770
Shell, rolled, steel, physical tests of ... 62
Sherbondy, E. H. ... 477
Ship, reinforced-concrete, construction, Waller system of ... 171
Silica brick ... 470
Siphon, thermic, Nicholson ... 285
Skew-gear type of gas turbine ... 898
Skillman, Edward ... 167
Skimmer boiler ... 900
Skin diseases ... 170
Slocum, Professor ... 58
Slope-deflection method ... 624
Smith "carbocoal" ... 836
Smith, S. P. ... 704
Smith, Watson ... 703
Soaps, testing and specifications for ... 540
Solar radiaton, effect of, upon balloons ... 540
Solders for aluminum ... 171
Sorption of iodine by carbon ... 962
Spark plugs ... 897
Spark-plug efficiency ... 620
terminals ... 958
Spectrophotometry, photoelectric ... 840
Spencer Hopwood boiler ... 837
Spencer, Leslie V. ... 476, 616
Spindle noses, standardization of, for milling machines ... 964
Spontaneous combustion ... 703
Springs, thermodynamics of ... 55
Standardization of railway equipment ... 180
Starters for large motors ... 620
Stations, power, large ... 399
Steam-engine lubrication ... 53
engines, drop valves for ... 775
engines, lubrication of ... 700
flow of, through pipes ... 705, 964
high-pressure and high-temperature ... 399
meters ... 172
saturated, equilibrium conditions in ... 964
turbo-electric stations ... 59
undercooled ... 964
Steel, alloy, transformation in an ... 618
carbon, tempering ... 540
medium-carbon, physical properties of ... 766
oxygen in ... 893
rail ... 471
rifle-barrel ... 772
shell, rolled, physical tests of ... 62
Stiel, Dr. William ... 175
Stodola, A. ... 705
Stokers to burn coke breeze ... 472
Storer, N. W. ... 963
Straub, Albert A. ... 62
Street-railway cars, gasoline engines for ... 963
Stremme, W. ... 52
Strickler, Dr. A. ... 893
Struts, long, stability of, of variable section ... 841
Stuart, M. C. ... 901
Submarine Defense Association ... 473
Submarine engine ... 895
Submersible salvage pumps and engines ... 550
Supercharger, Moss, for airplane engines ... 616
"Supercharging" ... 476, 956
Supersaturated steam ... 964
Surge pressures in pipe lines ... 618
Suverkrop, E. A. ... 173
Suwalski, M. ... 58
Swan, Capt. J. B. ... 771
Sykes flexible reversible coupling ... 547

T

Tachometers, centrifugal ... 282
Takemura, Kango ... 768
Tallmadge, Webster ... 62
Tanks, boiling, in locomotive workshops ... 280
Tar acids ... 835
Tarrant triplane ... 615
Taylor, A. H. ... 50
Taylor fuel ... 769
Tempering carbon steel ... 540
hardening and, railway materials ... 391
Teng, J. H. ... 540
Tennessee ... 961
Tests, physical, of rolled-shell steel ... 62
quick-bend ... 471
Thermal analysis ... 836
analysis, inverse-rate method for ... 617
Thermodynamics of springs ... 55
Thread-cutting mechanism of Norwegian lathe ... 839
Ties, railway, preserving ... 481
Tiles, building, hollow, tests of ... 168
Tire, stamped marks on ... 168
railway, falling-weight test on ... 167
Tolerances ... 621
Tools, formed, casting, Davidson process of ... 395
Touceda, Enrique ... 51
Toughness ... 389
engines ... 897
steam ... 284
Traer ... 836
Train, wind resistance on ... 701
Trefoil type ... 895
Tubes under pressure ... 58
seamless ... 283
Turbine, bucket ... 698
characteristics, water, plotting of ... 837
for mechanical drives ... 701
gas, pressure, Sanders ... 898
gear drive ... 961
hydraulic, Seewer governor for ... 893
large, status of ... 705
low-pressure steam, governor ... 61
operation, distortion in ... 62
Pfarr ... 392
steam, cross-compound, 45,000-kw ... 61
steam, impulse and reaction, bucket efficiency of ... 625
steam, pneumatic, governor ... 842
water, at Kubel ... 278
water, compound, single-wheel ... 392
waste-water ... 698
Turbo-alternator, efficiency of ... 704
Turbo-electric, steam, stations ... 59
Twelvetrees, W. Noble ... 171

U

Unwin, Dr. W. C. ... 901
Ubbelohde viscosimeter ... 469

V

Valve, drop, for steam engines ... 775
fuel-injection, for Diesel engines ... 52
rockers of cast iron ... 958
suction, fuel-pump ... 958
Vanadium, supply of ... 481
Vapor refrigeration processes ... 401
Velocity of water ... 179
Ventilating plant, mine ... 390
Ventilator, ship, cowls ... 172
Vessels, pressure, reversed heads in ... 172
Viall, Ethan ... 838
Viallet ... 544
Vibration of beams ... 58
of concrete ... 278
Vickers Diesel engine ... 895
Vincent, H. S. ... 177
Viscosimeter, rolling-ball ... 893
Viscosity of gasoline ... 469
Von Bach ... 278

W

Wagenbach, W. W. ... 698
Waller system of reinforced concrete ship construction ... 171
Waltenberg, R. G. ... 766, 836
War secrets ... 63
Wardrop, G. Douglas ... 276
Water, outlet, temperatures and engine efficiency ... 475
treatment ... 551
velocity of ... 179
velocity of, hexagonal chart for, in pipes ... 767
Weaver, E. R. ... 539
Webster, T. K. ... 838
Wedge bolt ... 961
Weibel, E. E. ... 539
Weiss, Camillo ... 624
Welds, arc, steel ... 55
Wheels, steel, limit of wear of ... 702
Whitehead, R. H. ... 473
Williams, A. D. ... 403
Wilson Bridge ... 50
Wilson line ... 964
Wilson nuclei ... 965
Wilson, W. M. ... 624
Wind motors ... 58
power ... 58
pressure on chimneys ... 56
resistance on a train ... 701
velocity observations ... 58
Wire rope ... 617
Woodward, R. W. ... 765

X

X-Rays, examination of materials by ... 618

Y

Young, J. B. ... 471

Z

Zirconium steels ... 481

Clay-Worker, Indianapolis
Cleveland Engineering Society, Journal, Cleveland
Coal Age, New York
Colliery Guardian and Journal of the Coal and Iron Trades, London
Compressed Air Magazine, New York
Concrete Age, Atlanta
Concrete and Constructional Engineering, London
Concrete Institute, Transactions and Notes, London
Concrete-Cement Age, Detroit
Cornell Civil Engineer (publ. by Cornell University, Association of Civil Engineers), Ithaca
Dansk Ingeniorforening, Ingenioren, Copenhagen
Deutsche Luftfahrer Zeitschrift, Berlin
Deutscher Verein von Gas und Wasserfachmännern, Verhandlungen, Munich
Dingler's Polytechnisches Journal, Stuttgart
Domestic Engineering, Chicago
Echo des Mines et de la Métallurgie, Paris
Electric Journal, Pittsburgh
Electrical Record, New York
Electrical Review and Western Electrician, New York
Electrical World, New York
Electrician, London
Electricien, Revue Internationale de l' Électricité, Paris
Elektrische Kraft-betriebe und Bahnen, Munich
Elektrochemische Zeitschrift, Berlin
Elektrotechnik und Maschinenbau, Vienna
Elektroteknisk Tidsskrift, Christiania
Engineer, London
Engineering, London
Engineering and Contracting, Chicago
Engineering and Mining Journal, New York
Engineering News-Record, New York
Engineering Review, London
Engineers' Club of Philadelphia, Proceedings, Philadelphia
Engineers' Society of Western Pennsylvania, Proceedings, Pittsburgh
Faraday Society, Transactions, London
Feuerungstechnik, Leipsic
Fire and Water Engineering, New York
Flight, London
Fördertechnik, Berlin
Franklin Institute, Journal, Philadelphia
Gas Age, New York
Gas and Oil Power, London
General Electric Review, Schenectady, N. Y.
Génie Civil, Paris
Geological Magazine, London
Geological Society of South Africa, Transactions (including Proceedings), Johannesburg
Geologisches Zentralblatt, General-register, Leipsic
Gesundheits-Ingenieur, Munich
Giesserei Zeitung, Berlin
Giornale del Genio Civile, Rome
Glückauf, Essen
Industria, Milan
Industrie des Tramways et Chemins der fer, Paris
Ingegneria Ferroviaria, Rome
Ingenieur (publ. by Koninklijk Instituut van Ingenieurs), The Hague
Institute of Marine Engineers, Transactions, Stratford
Institute of Metals, Journal, London
Institute of Radio Engineers, Proceedings, New York
Institution of Automobile Engineers, Proceedings, London
Institution of Civil Engineers, Minutes of Proceedings, London
Institution of Electrical Engineers, Journal, London
Institution of Engineers and Shipbuilders in Scotland, Transactions, Glasgow
Institution of Gas Engineers, Transactions, Westminster
Institution of Mechanical Engineers, Journal, London
Institution of Mining and Metallurgy, Bulletin, London
Institution of Mining and Metallurgy, Transactions, London
Institution of Mining Engineers, Transactions, Newcastle-upon-Tyne
Institution of Municipal and County Engineers, Proceedings, London
Institution of Naval Architects, Transactions, London
Institution of Petroleum Technologists, Journal, London
Instituto de Ingenieros de Chile, Anales, Santiago de Chile
Instituto Geologico de Mexico, Bulletin, Mexico
International Marine Engineering, New York
International Sugar Journal, Manchester
Iron Age, New York
Iron and Coal Trades Review, London
Iron and Steel Trades Journal, London
Journal du Pétrole, Paris
Journal für Gasbeleuchtung, Munich
Journal of Electricity, San Francisco
Journal of Geology, Chicago
Journal of Physical Chemistry, New York
Journal of the United States Artillery, Fort Monroe, Va.
Journal Télégraphique, Berne
Junior Institution of Engineers, Journal and Record of Transactions, London
Königliches Materialprufüngsamt zu Gross-Lichterfelde West, Mitteilungen, Berlin
Kyoto Imperial University, College of Science and Engineering, Memoirs, Kyoto
London, Edinburgh and Dublin Philosophical Magazine and Journal of Science, London
Louisiana Planter and Sugar Manufacturer, New Orleans
Machinery, New York
Machinery, London
Manufacturers' Record, Baltimore
Marine Engineer and Naval Architect, London
Marine Journal, New York
Marine Review, Cleveland
Mechanical World and Metal Trades Journal, London
Metal Industry, London
Metal Industry, New York
Metallurgical and Chemical Engineering, New York
Métallurgie, Paris
Mining and Engineering Review, Melbourne
Mining Journal, London
Mining Magazine, London
Mining Press, San Francisco
Model Engineer and Electrician, London
Motor Age, Chicago
Motor Boat, New York
National Fire Protection Association, Quarterly, Hartford
National Physical Laboratory, Report, Teddington, England
Natural Gas Journal, Buffalo
Nature, London
New England Water Works Association, Journal, Boston
New Zealand Institute, Transactions and Proceedings, Wellington
North of England Institute of Mining and Mechanical Engineers, Transactions, Newcastle-upon-Tyne
North-East Coast Institution of Engineers and Shipbuilders, Transactions, Newcastle-upon-Tyne
Nuovo Cimento, Pisa
Oelmotor, Vienna
Oesterreichische Zeitschrift für Bergund Hüttenwesen, Beilage, Bergrechtliche Blaetter, Vienna
Oesterreichischer Ingenieur und Architekten Verein, Zeitschrift, Vienna
Ohio Society of Mechanical, Electrical and Steam Engineers, Journal, Columbus
Oil, Paint and Drug Reporter, New York
Paper, New York
Paris, Académie des Sciences, Comptes Rendus Hebdomadaires des Séances de l'Academie, Paris
Paris, Académie des Sciences, Memoires de l'Académie Royale des Sciences de l' Institut de France, Paris
Peru, Cuerpo de Ingenieros de Minas, Boletin, Lima
Petroleum, Berlin
Petroleum Review, London
Petroleum World, London
Physical Review, New York
Physical Society of London, Proceedings, London
Physikalisch-technische Reichanstalt, Wissenschaftliche Abhandlungen, Berlin
Physikalische Zeitschrift, Leipsic
Post Office Electrical Engineers' Journal Institution of Post Office Electrical Engineers, London
Power, New York
Power Wagon, Chicago
Practical Engineer, London
Practical Engineer, Chicago
Praktische Maschinen-Konstructeur, Leipsic
Prometheus, Berlin
Promyshlenost i Torgovla, Petrograd
Przeglad Techniczny, Warsaw
Quarry, London
Queensland Government Mining Journal, Brisbane
Railway Age (mechanical edition), New York
Railway and Locomotive Engineering, New York
Railway Club of Pittsburgh, Official Proceedings, Pittsburgh
Railway Electrical Engineer (publ. by Association of Railway Electrical Engineers), Chicago
Railway Engineer, London
Railway Gazette, London
Railway Journal, Chicago
Railway Master-Mechanic, Chicago
Railway News, London
Railway Review, Chicago
Rassegna Mineraria Metallurgica e Chimica, Turin
Rauch und Staub, Düsseldorf
Refrigerating World, New York
Revista de Ingenieria y Arquitectura (publ. by Instituto de Ingenieros y Arquitectos de Valparaiso), Valparaiso
Revue de Métallurgie, Paris
Revue Générale des Chemins de Fer et des Tramways, Paris
Revue Générale des Sciences Pure et Appliquées, Paris
Revue Scientifique, Industrielle et Commerciale des Métaux & Alliages, Paris
Revue Universelle des Mines, de la Métallurgie, Paris
Richmond Railroad Club, Official Proceedings, Richmond, Va.
Rivista Marittima, Rome
Rivista Tecnica delle Ferrovie Italiane, Rome
Rock Products and Building Materials, Chicago
Royal Dublin Society, Scientific Proceedings, Dublin
Royal Institute of British Architects, Journal, London
Royal Philosophical Society of Glasgow, Proceedings, Glasgow
Royal Society of Arts, Journal, London
Royal Society of Edinburgh, Proceedings, Edinburgh
Royal Society of Edinburgh, Transactions, Edinburgh
Royal Society of London, Philosophical Transactions, London
Royal Society of New South Wales, Transactions, Journal and Proceedings, Sydney
Royal Society of Tasmania, Papers and Proceedings, Hobart Town.
Royal Society of Victoria, Proceedings, Melbourne
Safety Engineering, New York
St. Louis Railway Club, Official Proceedings, St. Louis
Salt Lake Mining Review, Salt Lake City
Schweizerische Bauzeitung, Zurich
Schweizerische Elektrotechnische Zeitschrift, Zurich
Schweizerischer Elektrotechnischer Verein, Bulletin, Zurich
Science, New York
Science Abstracts, London
Scientific American, New York
Shipbuilder, Newcastle-upon-Tyne
Shipbuilding and Shipping Record, London
Shipping Illustrated, New York
Sibley Journal of Engineering, Ithaca, N. Y.
Signal Engineer, Chicago
Sociedad Cientifica "Antonio Alzate," Memorias, Mexico
Sociedad Cientifica Argentina, Anales, Buenos Aires
Sociedad Colombiana de Ingenieros, Anales de Ingenieria, Bogota
Sociedad de Fomento Fabril, Boletin, Santiago de Chile
Sociedad de Ingenieros, Boletin, Informaciones y Memorias, Lima
Sociedad Geologica Mexicana, Boletin, Mexico
Sociedad Nacional de Mineria, Boletin, Santiago de Chile
Societa Chimica di Roma, Rendiconti, Rome
Societe Chimique de France, Bulletin, Paris
Societe de l'Industrie Minerale, Comptes-Rendus Mensuels, Saint-Etienne
Societe d'Encouragement pour l'Industrie Nationale, Bulletin, Paris
Société des Ingénieurs Civils de France, Memoires et Travaux, Paris
Société Française de Mineralogie, Bulletin, Paris
Société Internationale des Electriciens, Bulletin, Paris
Society for the Promotion of Engineering Education, Proceedings Lancaster, Pa.
Staffordshire Iron and Steel Institute, Proceedings, Stourbridge
Stahl und Eisen, Düsseldorf
Steam, New York
Steamship, Leith
Steel and Iron, Pittsburgh
Steel and Metal Digest, New York
Stone, New York
Sugar, Chicago
Survey, New York
Surveyor (publ. by Institution of Surveyors, New South Wales), Sydney
Surveyor and Municipal and County Engineer, London
Surveyor's Institution, Transactions, London
Technique Moderne, Paris
Teknisk Tidskrift, Stockholm
Teknisk Ukeblad, Christiania
Telegraph and Telephone Age, New York
Telephone Engineer, Chicago
Textile World Record, Boston
Times Engineering Supplement, London
Tokyo Imperial University, College of Science, Journal, Tokyo
Toronto University, Studies, Geological Series, Toronto
Tramway and Railway World, London
Transmitter, Sydney.
United States Army and Navy Journal, New York
United States Naval Institute, Proceedings, Annapolis, Md.
Verein der Deutsche Zucker-Industrie, Zeitschrift, Berlin
Verein der Gas-und Wasserfachmänner in Osterreich-Ungarn, Zeitschrift, Vienna
Verein Deutscher Ingenieure, Beiblatt, Technik und Wirtschaft, Berlin
Verein Deutscher Ingenieure, Beitraege zur Geschichte der Technik und Industrie, Berlin
Verein Deutscher Ingenieure, Mitteilungen über Forschungsarbeiten auf dem Gebiete des Ingenieurwesens, Berlin
Verein Deutsche Ingenieure, Zeitschrift, Berlin
Verein zur Beförderung des Gewerbfleisses, Verhandlungen, Berlin
Victorian Institute of Engineers, Proceedings, Melbourne
Victorian Institute of Surveyors, Transactions, Melbourne
Water and Gas Review, New York
Werkstattstechnik, Berlin
West of Scotland Iron and Steel Institute, Journal, Glasgow
Western Australian Institution of Engineers, Proceedings, Perth
Western Canada Railway Club, Proceedings, Winnipeg
Western Engineering, San Francisco
Western Railway Club, Official Proceedings, Chicago
Western Society of Engineers, Journal, Chicago
Wireless Age, New York
Wireless World, London
Wisconsin Engineer, Madison, Wis.
Wood-Worker, Indianapolis
Worcester Polytechnic Institute, Journal, Worcester, Mass.
Zeitschrift für Angewandte Chemie, Leipsic
Zeitschrift für Anorganische Chemie, Leipsic
Zeitschrift für Beleuchtungswesen, Heiz und Lüftungs-technik, Berlin
Zeitschrift für Dampfkessel und Maschinenbetrieb, Berlin
Zeitschrift für das Gesamte Schiess- und Sprengstoffwesen, Munich
Zeitschrift für das Gesamte Turbinenwesen, Munich
Zeitschrift für die Gesamte Kälte-Industrie, Munich
Zeitschrift für Elektrochemie und Angewandte Physikalische Chemie, Halle, a. S.
Zeitschrift für Flugtechnik und Motorluftschiffahrt, Munich
Zeitschrift für Instrumentenkunde, Berlin
Zeitschrift für Komprimierte und Flüssige Gase sowie für die Pressluft-Industrie, Weimar
Zeitschrift für Physikalischhe Chemie, Leipsic
Zeitschrift für Praktische Geologie, Berlin
Zeitschrift für Sauerstoff- und Stickstoff-Industrie, Berlin
Zeitschrift für Schwachstromtechnik, Munich
Zeitschrift für Vermessungswesen, Stuttgart
Zeitschrift für Zuckerindustie in Böhmen, Prague
Zentralblatt der Bauverwaltung, Berlin
Zentralblatt für Chemie und Analyse der Hydraulischen Zemente, Halle, a. S.